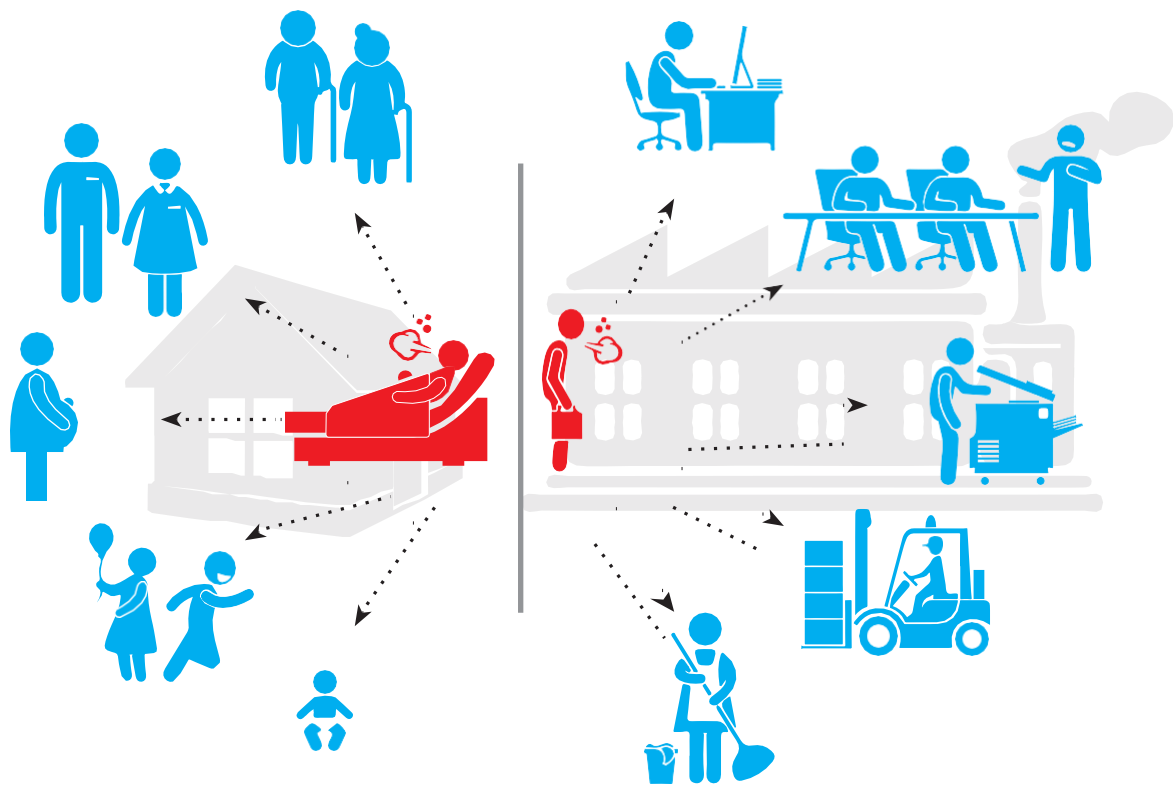




STANDARD OPERATING PROCEDURE FOR TB CONTACT INVESTIGATION

2nd Edition
March 2025



National TB Programme
Department of Public Health
Ministry of Health
The Republic of the Union of Myanmar

CONTENTS

Foreword	i
List of Abbreviations	ii
Definitions	iii
I. Introduction	4
II. Objectives	5
III. Target Audience for SOP	5
IV. Target Beneficiaries	5
V. Standard Procedure	6
VI. Frequency of Contact Investigation	10
VII. Monitoring and Supervision	10
VIII. Contact Investigation SOP Roadmap for Household Contacts	11
Annexes	12
References	25

Foreword

The development of this SOP by National TB Program was undertaken in 2017 and 2018 with the support from the USAID-funded Challenge TB Project, FHI 360. With new evaluating the impact of screening interventions on both individual-level and community-level outcomes related to TB, as well as new research evaluating innovative tools for screening for TB, this SOP was revised in 2023. The National TB Programme, Department of Public Health, Ministry of Health, Myanmar would like to express its sincere thanks to WHO, FHI 360, MSF-H, PSI, The Union, MMA for their technical support and time in initiating this SOP and to technical focal from WHO, MATA, FHI 360 for their kind inputs in the 2nd edition process.

**National TB Programme
Department of Public Health Ministry of
Health
The Republic of the Union of Myanmar**

List of Abbreviations

BHS	Basic Health Staff
CI	Contact Investigation
DR-TB	Drug-resistant Tuberculosis
DS-TB	Drug-susceptible Tuberculosis
HIV	Human Immunodeficiency Virus
LTBI	Latent Tuberculosis Infection
MDR-TB	Multidrug-resistant Tuberculosis
MO	Medical Officer
NTP	National Tuberculosis Programme
PLHIV	People Living with Human Immunodeficiency Virus
PTB	Pulmonary Tuberculosis
RHC	Rural Health Centre
RR-TB	Rifampicin-resistant Tuberculosis
SC	Sub-centre
SOP	Standard Operating Procedure
TB	Tuberculosis
TMO	Township Medical Officer
TPT	TB Preventive Treatment (Latent TB Treatment)
WHO	World Health Organization
XDR-TB	Extensively Drug-resistant Tuberculosis

Definitions

- **Index patient:** The initially identified case of new or recurrent TB in a person of any age in a specific household or comparable congregate setting in which others may have been exposed. An index patient is the person around whom a contact investigation is centered. The index patient is generally the case identified initially, although s/he may not be the source case.
- **Household contact:** A person who shared the same enclosed living space for one or more nights or for frequent or extended periods with the index patient during the 3 months before the start of current treatment of patient.
- **Close contact:** A person who does not live in the household but who shared an enclosed space, such as a social gathering place, workplace or facility, with the index patient during the 3 months before commencement of the current treatment episode.
- **Contact Investigation:** systematic identification of people with previously undiagnosed TB disease and TB infection among the contacts of an index TB patient in the household and in comparable settings in which transmission occurs. It consists of identification, clinical evaluation and/or testing and provision of appropriate anti-TB therapy (for people with confirmed TB) or TB preventive treatment (for those without TB disease).
- **Tuberculosis (TB):** The disease state caused by *Mycobacterium Tuberculosis*. It is usually characterized by clinical manifestations, which distinguishes it from TB infection without signs or symptoms. In this document, it is referred to simply as “TB” or “TB disease”. It should be distinguished from “TB infection” (previously referred to as “latent TB infection” or LTBI, a term that incorporated generations of TB bacilli that are not dormant). Pulmonary TB involves the lungs and is the most common form of TB. Extrapulmonary TB involves organs other than the lungs (e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones or meninges). Both pulmonary and extrapulmonary forms may coexist in the same patient.
- **Tuberculosis preventive treatment:** Treatment offered to individuals considered to be at risk of TB disease in order to reduce that risk. Also referred to as “treatment of TB infection” and previously treatment of “latent TB infection”.
- **Number needed to screen:** The number of persons that need to undergo screening in order to diagnose one person with TB disease.
- **Systematic Screening for TB disease:** Systematic screening for TB disease is defined as the systematic identification of people at risk for TB disease, in a predetermined target group, by assessing symptoms and using tests, examinations or other procedures that can be applied rapidly. The screening tests, examinations and other procedures should efficiently distinguish people with a high probability of having TB disease from those who are unlikely to have TB disease.

I. Introduction

Myanmar was the only country in the South-East Asian Region of the World Health Organization (WHO) to meet the End TB incidence target of a 20% reduction by 2020, compared to 2015. Unfortunately, there was a sharp decline in TB notification in 2020 compared to 2019. An extra decline in TB notification continued in 2021. As a result of this drop in notification (and the 200,000 cases that weren't diagnosed) the WHO estimated that the TB incidence increased from 308 to 360/100,000 by the end of 2021. As a result, the gap between incidence and case notification has widened significantly in 2021.

A significant improvement in case notification has been found in 2022, but in general, not yet up to pre-pandemic levels, with some exceptions. According to WHO's estimation, 2022 TB incidence would be 475 per 100,000 population and according to NTP's surveillance data, TB case notification rate is 217 per 100,000 population (total 117,308 all forms of TB cases); the gap between incidence and notification is still widened.

Myanmar is still one of 30 high burden countries for TB, MDR-TB and TB/HIV coinfection according to WHO Global Tuberculosis reports. This now demands redoubled efforts to bring incidence back down again, and for Myanmar to get back on track to achieve the End TB goals over the next few years. Regarding MDR-TB, the 4th nationwide TB drug resistance survey (2019-2020) estimated MDR-TB prevalence of 3.0% among new TB cases and 11.8% among retreatment TB cases. According to HIV Sentinel Surveillance (2020) HIV prevalence among new TB patients was 9.2%.

In order to reduce TB/MDR-TB burden in Myanmar, National Tuberculosis Programme (NTP) is accelerating TB/MDR-TB control activities together with partner organizations in line with the National TB Strategic Plan (2021-2025).

Among the TB/MDR-TB control activities of NTP, TB case finding is a crucial component. Among the TB case finding activities, investigating the contacts of infectious TB/MDR-TB patients have been found to be cost effective and important. It contributes to early identification of active TB, thus decreasing its severity and reducing transmission to others and identification of latent TB infection. WHO also strongly recommended that contact investigation should be conducted when the index TB patient is bacteriologically confirmed PTB, DR-TB, PLHIV and less than 5 years old of age. Normally, children do not have a highly infectious form of TB. However, childhood TB cases less than 5 years old of age is in the list of index TB patient. The reason is to find the source of the infection, not to find secondary cases from the child as the infection is more possible from a person in the same household. Moreover, TB patients with HIV are also contained in the list of index TB patient as there is higher likelihood that people staying in the same household also have HIV infection and are at high risk for the development of active TB if infected.

Regarding the risk for developing active TB disease, contacts have a higher risk of developing active TB disease than the general population. Then, the risk is much higher if the contacts are under 5

years of age and HIV positive. According to systematic review and meta-analysis, among contacts of patients with bacteriologically confirmed TB, the weighted pooled prevalence of TB was 3.4% (95% CI: 2.9–3.8). Among contacts of patients with multidrug-resistant or extensively drug-resistant TB, the weighted pooled prevalence of TB was 3.7% (95% CI: 2.4–5.3). The weighted pooled prevalence of TB among HIV-positive contacts was 11.6% (95% CI: 8.2–15.4), with a median NNS of 9 (95% CI: 5–13). The weighted pooled prevalence among contacts younger than 5 years was 3.9% (95% CI: 2.5–5.4), with a median NNS of 30 (95% CI: 12–62), while the prevalence among contacts aged 5–14 years was 2.4% (95% CI: 1.6–3.4), with a median NNS of 36 (95% CI: 17–61). Contact investigation may also be performed for TB patients with all other forms of disease.

Furthermore, contact investigations also provide preventive benefit, especially for household contacts of Bacteriologically confirmed PTB cases and HIV infected contacts who do not have active TB disease are eligible for TB Preventive Treatment (TPT). TPT could reduce the development of active TB disease from latent TB infection (LTBI) in those contacts.

This SOP will provide standard operating procedures for contact investigation of both household and close contacts of index TB patients.

II. Objectives

- 1) To provide early diagnosis of active TB (DS-TB, DR-TB) & Latent TB infection (LTBI).
- 2) To provide treatment for active TB (DS-TB, DR-TB)
- 3) To provide TPT for contacts who are eligible as per national guidelines¹

III. Target Audience for SOP

- 1) Township Health Facilities and Basic Health Staff (BHS)
- 2) Partner Organizations of National TB Programme

IV. Target Beneficiaries

Contact investigation among contacts must be conducted when the index TB patient has any of the following characteristics:

- 1) Pulmonary Bacteriologically Confirmed TB
- 2) Drug-resistant TB (MDR/RR-TB, preXDR-TB, XDR-TB)
- 3) is a TB/HIV
- 4) is a < 5 years old of age.

However, contact investigation should be conducted for all types of all registered TB patients if resources are available.

¹ Revised National Guidelines on Management of TB in Children (2016) Guidelines for the Clinical Management of TB/HIV in Myanmar (2017) Programmatic management of Latent TB Infection (2020)

V. Standard Procedure

(1) Operating procedure for Household Contacts

This procedure will focus on household contacts of index TB patients, and it will primarily provide a home-based approach.

- Medical Officer/TB Coordinator will clearly and sensitively explain the urgency of initiating contact investigations to every new registered TB/DR-TB patient who is eligible for CI. Counselling to index TB patients should also help them to appreciate the importance of identifying all significant contacts. This will permit preventive action to reach more people at risk.
- MO/TB coordinator will also provide the list of index TB patient to assigned BHS for conducting CI. Or else, BHS will collect the information of the index TB patients list from MO/TB Coordinator.
- Then BHS will visit the house of the index TB patient within first 1 month of anti TB treatment. During the home visit, BHS should make an assessment of household contacts and provide counselling and education to them on TB symptoms. BHS must use “Contact Investigation Register” to ask the contact (Annex: 1).
- After conducting investigation at the patient’s house, BHS must refer all household contacts to the nearest township health facility for evaluation of active TB or eligibility for TPT. BHS needs to provide the referral form to those contacts. Referral Form for TB Contact (Annex:2) which includes carbonized 3 papers. One copy will be kept in BHS. One original paper and one copy will be provided to the contact for referral to the health facility.

If township health facility is far from the house especially in hard-to-reach area, BHS can facilitate sputum transportation of presumptive contacts to nearest health facility.

- Medical officer from the health facility will conduct systematic screening for all household contacts to rule out active TB and eligibility for TPT as WHO and per national guidelines. If the resources are available, systematic screening for all household contacts (regardless of TB symptoms) should be conducted by using CXR screening. The new diagnostic algorithm of Chest X-ray abnormalities followed by Gene Xpert will be applied wherever the resources are available. Contacts among whom TB disease has been excluded, eligibility for TPT must be assessed. According to current national guidelines, HIV positive contacts and children < 5 years old contacts of bacteriologically confirmed DS-TB patient are eligible for TPT after excluding active TB disease (even by symptomatic screening). For those HIV-negative household contacts of aged 5 year and more, TPT eligibility should be

determined by LTBI testing (Tuberculin Skin Test (TST), Interferon Gamma Release Assay (IGRA), TB antigen-based skin test, etc.), but unavailability of these tests should not be a barrier to treat people who were judged to be at higher risk.

After evaluating the patient, TB Coordinator need to send result of evaluation to BHS by using “Referral Feedback Form for TB Contact” (Annex: 2). TB Coordinator will keep one copy paper and will send back the original paper to BHS.

- Then, BHS needs to update the contact investigation register according to the result of evaluation.
- BHS needs to report contact investigation activity to Township Medical Officer/Township TB Coordinator by using “Quarterly Contact Investigation Report of BHS” (Annex: 3).
- Township Medical Officer/Township TB Coordinator needs to report contact investigation activity to Regional/State TB Officer by using “Quarterly Contact Investigation and TB Preventive Treatment (TPT) Report” (Annex: 4).
- Contact Investigation Roadmap will also show the process of the contact investigation clearly.

(2) Operating procedure for Close Contacts

This procedure will be focused on close contacts of index TB patients.

- Index TB patient may be a person who is staying (or) working in a congregate setting such as public workplace, a private workplace, an organization and an internally displaced person camp (IDP Camp). If so, close contacts of the index TB patient will be from those places. When TB contact investigation is conducted in those places, it must conduct depending on size of workplace, organization and camp. There might be small, medium and large settings.
- **If the setting is large (close contacts are more than 200)**, negotiation in advance with supervisors from the workplace, organization and congregate setting is an important procedure. For conducting TB-CI activities in the large setting, it should be done by TB mobile team. Moreover, State/Regional TB officer, TMO, TB Coordinator, respective BHS and official from occupational health and social security board should include in the TB mobile team. Visit plan of the TB mobile team should be informed to Township Administrative Department in advance.
- **If the setting is small**, it should be conducted by TB-CI team that contacting Regional/ State TB officer (or) TB team leader, TMO, TB Coordinator and respective BHS. The TB-CI team will visit the place for conducting investigation of close contacts and targeted health education (health education on signs and symptoms of TB, mode of transmission, means

of prevention and risk of drug resistant). Before visiting for contact investigation activities in those places, it has to be conducted the negotiation with supervisors from the workplace, organization and congregate setting in advance. TB-CI team should visit to the place within 1 month of anti TB treatment on index TB patient and will use “Contact Investigation Register” (Annex: 1).

- After conducting investigation, the team will evaluate all TB contacts. Then, the team will refer the case to nearest township health facility. It is needed to provide the referral form to those contacts. Referral Form for TB Contact (Annex: 2) which includes 3 carbonized papers. One copy will be kept in BHS. One original paper and one copy will be provided to the contact for referral to the health facility.
- Medical officer from the health facility will conduct systematic screening for all close contacts to rule out active TB and eligibility for TPT as WHO and per national guidelines. If the resources are available, systematic screening for all household contacts (regardless of TB symptoms) should be conducted by using CXR screening. The new diagnostic algorithm of Chest X-ray abnormalities followed by Gene Xpert will be applied wherever the resources are available. Contacts among whom TB disease has been excluded, eligibility for TPT must be assessed. According to current national guidelines, HIV positive contacts and children < 5 years old contacts of bacteriologically confirmed DS-TB patient are eligible for TPT after excluding active TB disease (even by symptomatic screening). For those HIV-negative household contacts of aged 5 year and more, TPT eligibility should be determined by LTBI testing (Tuberculin Skin Test (TST), Interferon Gamma Release Assay (IGRA), TB antigen-based skin test, etc.), but unavailability of these tests should not be a barrier to treat people who were judged to be at higher risk.

After evaluating the patient, TB Coordinator need to send result of evaluation to BHS by using “Referral Feedback Form for TB Contact” (Annex: 2). TB Coordinator will keep one copy paper and will send back the original paper to BHS.

- Then, BHS needs to update the contact investigation register according to the result of clinical evaluation.
- BHS needs to report contact investigation activity to Township Medical Officer (TB) by using “Quarterly Contact Investigation Report of BHSP” (Annex: 3).
- Township Medical Officer/Township TB Coordinator needs to report contact investigation activity to Regional/State TB Officer by using “Quarterly Contact Investigation and TB Preventive Treatment (TPT) Report” (Annex: 4).

(3) TB-CI procedure at health facility

If the home or workplace cannot be visited, the index TB patient may be interviewed at a health facility and contacts listed. Complete address and modality for future communication should be mutually agreed with the index patient (such as phone numbers, email, contact of an intermediary or treatment provider). Responsible persons or health care workers should then systematically follow up with the index patient or treatment provider and mobilize all relevant contacts to the health facility for symptom screening, testing for TB and TB infection when indicated and evaluation for eligibility of TPT. In those cases, contact investigation register (Annex: 1) is to be updated by responsible person at that facility and then need to report in “Quarterly Contact Investigation and TB Preventive Treatment (TPT) Report” (Annex: 4).

(4) Role of Community Volunteers

Partner organizations of NTP are also implementing contact investigation activity in the country by using community volunteers. According to the SOP, volunteers from partner organizations are also needed to follow the standard operating procedures like BHS from government. Then, forms and reporting template are also needed to be used by the volunteers and all NTP partner organizations.

10 key steps in contact investigation*

1. Review available index patient information
2. Assess duration and degree of infectiousness of index TB patient to identify contacts
3. Counsel index patient and enumerate household and close contacts
4. Develop plan for contact investigation in consultation with index patient and heads of the household
5. Consider other contacts for investigation (such as in the workplace)
6. Conduct home visits or invite contacts to health center for evaluation
7. Conduct clinical assessment and refer for testing as appropriate
8. Provide treatment for TB disease or TPT as per eligibility

VI. Frequency of Contact Investigation

(A) Drug-susceptible TB Index patient

If the index patient is DS-TB, contact investigation should be carried out at least 1 time and it should be within first 1 month of anti TB treatment. Then, all contacts should be educated and counselled to come to the health facility for evaluation of active TB (DS-TB, DR-TB) & Latent TB infection (LTBI).

BHS must use “Contact Investigation Register” (Annex: 1/A) for index patient who is DS-TB. An example is described in Annex: (5/A).

(B) Drug-resistant TB Index patient

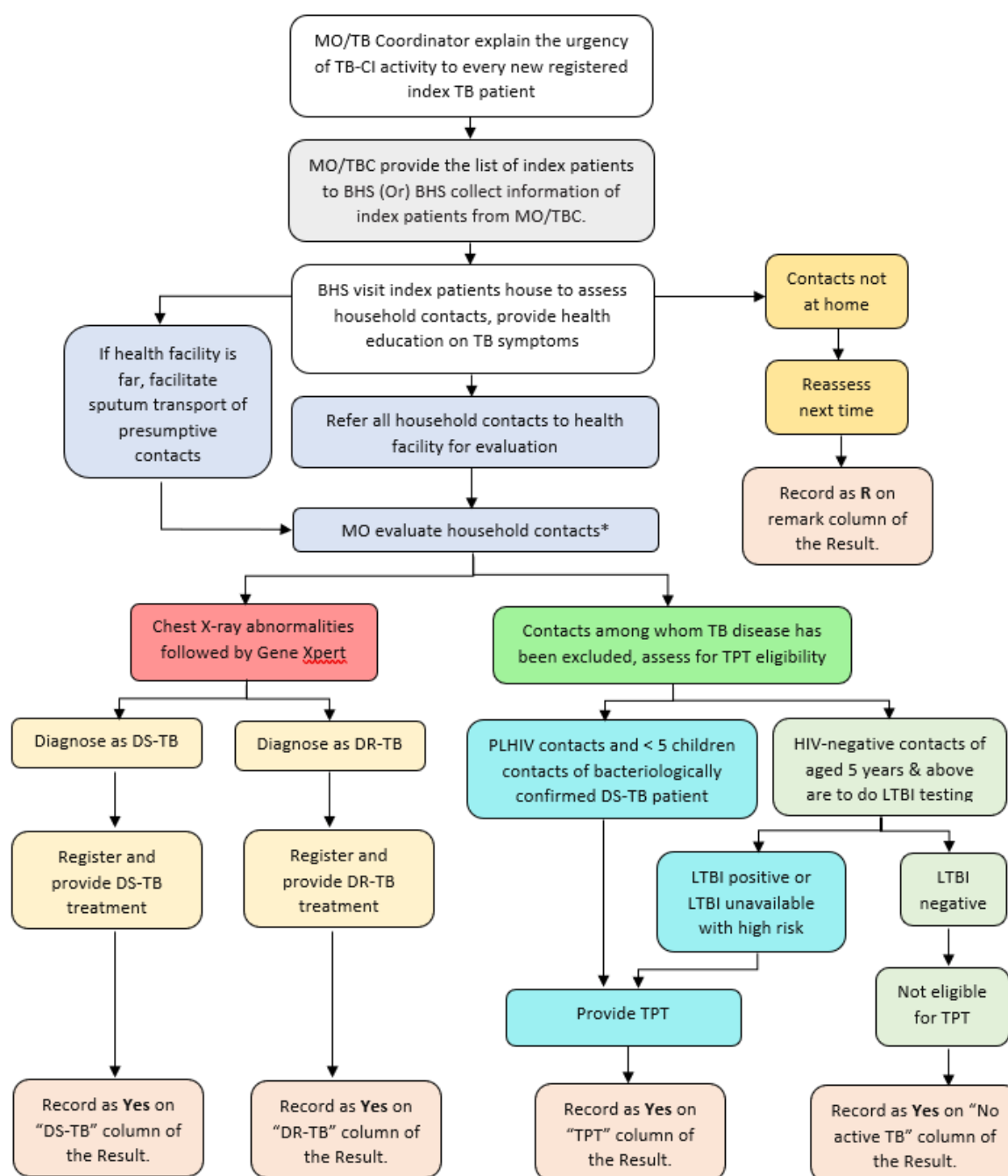
If the index patient is RR-TB/MDR-TB/XDR-TB, contact investigation should be carried out at least 2-times by 6 monthly schedules during MDR-TB treatment. First time contact investigation should be within first 1 month of MDR-TB treatment. Therefore, a contact of index patient on conventional (18-20 months) MDR-TB treatment must be investigated 4 times as well as a contact of index patient on shorter (6-9 months) MDR-TB regimen should be investigated at least 2 times. However, BHS could assess the contacts whenever he/she goes to patient’s house for daily DOT. All contacts should also be educated and counselled to come to the health facility for evaluation of active TB (DS-TB, DR-TB) & Latent TB infection (LTBI).

BHS must use “Contact Investigation Register” (Annex: 1/B) for index patient who is MDR-TB. An example is described in Annex: (5/B).

VII. Monitoring and Supervision

Monitoring and supervision of the performance of BHS is crucial for contact investigation activity. TMO (or) TB Coordinator will be focal person for monthly monitoring and supervision of contact investigation activity in the respective township. Regional/State TB Officer will be focal person for quarterly monitoring and supervision of contact investigation activity in the respective Region/State.

VIII. Contact Investigation SOP Roadmap for Household Contacts



* If resources are available, systematic screening for household contacts (regardless of TB symptoms) should be conducted by using CXR screening.

Annexes

Annex (1/A)

CONTACT INVESTIGATION REGISTER (DS-TB)

() Month, () Year

#	Date of visit	Name of Index patient & TB REG NO:	Age	Address (Add Phone No:)	Category of Index patient				Name of Contact	Sex	Age	TB Symptoms (Yes/No)					Evaluation for TB/TPT(Y/N)	Result (Yes)				Remark R = Reassess
					Bact: Con: PTB	Child TB < 5 yrs	TB/HIV	Other				Cough ≥2wk	Fever	Weight Loss	Night Sweat	Other		DS-TB	DR-TB	No active TB	TPT	

Note:

- 1) Children < 5 years old who are contacts of bacteriological confirmed PTB index patient should be referred to clinic although they don't have any TB symptoms as they need to take TPT.
- 2) If a TB patient would be included in one or more index case categories (ie. TB/HIV or U5 patient is also a bact. confirmed PTB), it is more preferring to count as Bact. confirmed pulmonary TB patient, and to be excluded from other categories. Such kind of patient should be mentioned in remark.

Annex (1/B)

CONTACT INVESTIGATION REGISTER (DR-TB)

() Month, () Year

[illegible]

Note: DR-TB = MDR/RR-TB, preXDR-TB, XDR-TB

Annex (2)

Referral Form for TB Contact Investigation

Date____/____/____

Name of Index patient_____Age _____

Type of index patient_____TB Registration No: _____

Name of Contact_____Age_____Male ☐ Female ☐

Address _____

From/

Signature_____

Name of Health Care Worker _____

SC/RHC _____

Township/Organization _____

Referral Feedback Form for TB Contact

Date____/____/____

Name of Index patient_____Age ____TB Registration No_____

Name of Contact_____Age____Male☐ Female☐

Result of Evaluation: DS-TB ☐ DR-TB ☐ No active TB ☐

From
/

Signature_____

Name_____

Designation_____

Township/Organization _____

Annex (3)

Quarterly Contact Investigation Report of BHS

Date ____/____/____ Quarterly Report For _____ Quarter/____ Year

Name of Responsible person: _____, Designation: _____

Township: _____ Region/State: _____

[illegible]

Annex (4)

Quarterly Contact Investigation and TB Preventive Treatment (TPT) Report

Date ____ / ____ / ____ Quarterly Report For ____ Quarter/ ____ Year

Name of Responsible person: _____, Designation: _____

Township: _____ Region/ State: _____

Sr.	Description	Bact. confirmed Pulmonary DS-TB index patient			DR-TB Index patient			U5 index patient*			TB/HIV Index patient*			Total
1	# of eligible registered index TB patients													
2	# of index patients receiving Contact Investigations													
		<5	5-14	≥15	<5	5-14	≥15	<5	5-14	≥15	<5	5-14	≥15	
3	# of contacts identified													
4	# of contacts evaluated at facility for active TB and TPT eligibility													
5	# of contacts diagnosed as DS-TB													
6	# of contacts diagnosed as DR-TB													
7	# of contacts put on TPT													
	7.1 6H													
	7.2 3HP													

HIV status of people on TPT : Positive _____ Negative _____ Unknown _____

Remark: _____

If a TB patient would be included in one or more index case categories (i.e.. TB/HIV or U5 patient is also a bact. confirmed PTB), it is more preferring to count as Bact. confirmed pulmonary TB patient, and to be excluded from other categories. Such kind of patient should be mentioned in remark.

Outcome report for individuals registered on TPT during the same quarter, one year earlier				
Regimen	Total registered individuals on TPT	Completed	Incomplete	TB disease while on TPT
6H				
3HP				

Annex (5/A)

CONTACT INVESTIGATION REGISTER (DS-TB)

() Month, () Year

#	Date of visit	Name of Index patient & TB REG NO:	Age	Address (Add Phone No:)	Category of Index patient				Name of Contact	Sex	Age	TB Symptoms (Yes/No)					Evaluation for TB/TPT(Y/N)	Result (Yes)				Remark R = Reassess
					BC PTB	Child TB < 5	TB/HIV	Other				Cough ≥2wk	Fever	Weight Loss	Night Sweat	Other		DS-TB	DR-TB	No active TB	TPT	
1	5, 5, 2018	U Zar Ni ISN 07	55	No 1, Ward 1, ISN	Y				Daw Su	F	40	N	N	N	N	N	Y	Y				
									Ko Phy	M	20											R
									Ko Soe	M	18	Y	N	Y	N	N	Y	Y				
									Mg Thaung	M	4	N	N	N	N	N	Y				Y	
2	8,5,2018	Ma Khay ISN 08	3	No 2, Ward 1, ISN		Y			U Phone	M	55	Y	Y	N	N	N	Y	Y				
									Daw Aye Mya	F	50	N	N	N	N	N	N					
									Ko Kyaw	M	28	Y	N	N	N	N	Y			Y		

Note:

1) Children < 5 years old who are contacts of bacteriological confirmed PTB index patient should be referred to clinic although they don't have any TB symptoms as they need to take TPT.

2) If a TB patient would be included in one or more index case categories (ie. TB/HIV or U5 patient is also a bact. confirmed PTB), it is more preferring to count as Bact. confirmed pulmonary TB patient, and to be excluded from other categories. Such kind of patient should be mentioned in remark.

Annex (5/B)

CONTACT INVESTIGATION REGISTER (DR-TB)

() Month, () Year

#	Date of visit	Name of Index patient & TB REG NO:	Age	Address (Add Phone No:)	Category of Index patient					Name of Contact	Sex	Age	TB Symptoms (Yes/No)					Evaluation for TB/TPT(Y/N)	Result (Yes)				Remark R = Reassess
					DR-TB (20 M)	DR-TB (11 M)	Child TB < 5 yrs	TB/HIV	Other				Cough ≥2wk	Fever	Weight Loss	Night Sweat	Other		DS-TB	DR-TB	No active TB	TPT	
1	5, 5, 2019	U Ba 18/01	55	No 1, Ward 1, ISN	Y					Daw Aye	F	40	N	N	N	N	N	Y		Y			
										Ko Mya	M	20											R
										Ko Hla	M	18	Y	Y	Y	N	N	Y	Y				
										Mg Mg	M	4	N	N	N	N	N	N					
2	5, 11, 2019	U Ba 18/01								Daw Aye													
										Ko Mya													
										Ko Hla													
										Mg Mg													

Note: DR-TB = RR-TB, MDR-TB, XDR-TB

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